

# A Longitudinal Analysis of Firm Specific Stock Prices And Industry Product Price Movements 2004-2013

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## Study Objectives

Determine if industry specific product prices are directly related to firm specific stock prices

## Research Approach

- Univariate Regression Analysis
- Time Period: 2004-2013
- Data Frequency: Monthly
- Data Sets
- 3 Digit Industry Product Prices
- Firm Stock Prices

## Model Specification

$$P(iJt) = A + B(PPI(Jt))$$

Where:

$P(iJt)$  = Price of  $i$ th stock in  $j$ th industry at time  $t$

$PPI(Jt)$  = Producer Price Index

For  $J$ th Industry at time  $t$

$A, B$  = equation parameters

Hypothesis:  $B > 0$ ,  $T \text{ Stat} > 2$

## Findings:

- Size of  $b$  coefficients for majority of firms increased from 04-08 to 08-13.
- $T$ -Stats  $> 2$  for most firms indicating  $b > 0$
- $R^2$  consistently high for railroad firms over both time periods

## Conclusion:

- Producer prices are predictors of firm stock prices

## Regression Results

	2004-2008			2009-2013		
Firm Name	b	T-Stat	R <sup>2</sup>	b	T-Stat	R <sup>2</sup>
Masco	-0.14	-4.42	0.29	0.125	5.14	0.25
Valspar	0.06	3.26	0.18	0.985	21.49	0.85
Sherwin Williams	0.68	13.62	0.79	2.76	18.68	0.81
PPG	0.23	5.13	0.35	2.37	14.52	0.72
Dow	-0.047	-1.13	0.026	0.369	7.559	0.426
Dupont	0.067	1.167	0.055	0.591	12.94	0.685
Eastman Chemical	0.254	10.076	0.679	1.167	18.113	0.81
Airgas	0.869	7.548	0.543	1.754	6.52	0.356
Air Products	1.023	5.328	0.372	1.481	7.417	0.417
Praxair	1.208	6.855	0.495	1.57	7.076	0.394
Illinois Tool Works	1.45	13.115	0.521	0.838	37.466	0.518
Graham	0.582	8.588	0.616	0.371	4.934	0.27
NN	-0.043	-2.784	0.139	0.281	6.714	0.36
Timken Co	0.261	10.211	0.685	0.604	12.591	0.665
Union Pacific	0.404	16.697	0.848	1.334	22.112	0.87
Kansas City Southern	0.542	16.778	0.852	2.014	25.63	0.899
Norfolk Southern	0.749	15.265	0.829	0.923	16.086	0.775
CSX	0.245	17.422	0.863	0.306	14.756	0.744
United Technologies	1.442	24.834	0.928	1.51	13.424	0.693
Textron	0.333	22.465	0.913	0.366	16.791	0.779
GE	0.238	6.616	0.477	0.099	1.771	0.038
Rolls Royce	0.333	22.465	0.913	0.366	16.791	0.779